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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/427,457	10/16/1999	GEOFF P. ANDERSEN	AFB00497	3207

7590 03/04/2002

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 03/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/427,457	ANDERSEN, GEOFF P.
Examiner	Art Unit	
Audrey Y. Chang	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 31 December 2001.
- 2a) This action is **FINAL**.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-8, 12-26 and 29-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-8, 12-26 and 29-39 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
 If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All   b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

## DETAILED ACTION

### *Remark*

- This Office Action is in response to applicant's amendment filed on December 31, 2001, which has been entered as paper number 14.
- By this amendment, the applicant has amended 1-2, 15-16, 18-19, 21, 32-33, and 36-39 and has canceled claims 9-11, and 27-28.
- Claims 1-8, 12-26 and 29-39 remain pending in this application.
- The rejections to claims under 35 USC 112, second paragraph, set forth in the previous Office Action dated July 19, 2001 are withdrawn in response to the amendment **with the exceptions for claims 12, 18 and 37.**

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the holographic image corrector comprises a *microscope* recited in claims 1, 2, 19 and 21 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Response to Amendment*

2. The amendment filed on December 31, 2001 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: claims 1, 2 and 19 and 21 **have been amended to include the phrase "a**

**holographic image corrector comprising a microscope".** The specification only gives support for the holographic image corrector to be employed in a microscope but does not give support for the corrector to comprise a microscope. The specification discloses that the holographic corrector is a **single optical plate** (such as 41 in Figures 3 and 4) that is impossible to comprise a microscope, which is a complicate optical system.

Applicant is required to cancel the new matter in the reply to this Office Action.

*Claim Rejections - 35 USC § 112*

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 1, 2-8, 12-14, 19, 21-26, and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.**

The reasons for rejection based on newly added matter are set forth in the previous paragraph.

Claims 3-8, 12-14, 22-26, and 29-31 inherit the rejection from their respective based claim.

5. **Claims 1, 2-8, 12-14, 19, 21-26 and 29-31 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.**

Claims 1, 2, 19 and 21 have been amended to include the phrase “**a holographic image corrector comprising a microscope**”. The specification fails to teach how could a holographic image corrector which is simply a single optical plate is enabled to comprise a microscope, which is a complicated optical system having more than one optical components. Claims 3-8, 12-14, 22-26, and 29-31 inherit the rejection from their respective based claim.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 12, 16, 18, 33 and 37 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**The reasons for rejection for claims 12, 18 and 37 are set forth in the previous Office Action dated July 19, 2001.**

Claims 16 and 33 have been amended to recite the phrase “employing an objective” that is indefinite since it is not clear how does this phrase relate to the “objective” recited in their respective based claim.

#### *Claim Rejections - 35 USC § 103*

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1, 2-8, 12-14, 15-17, 18, 19, 20, 21-26, 29-31, 32-36, 37, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over the article "Window aberration correction in laser velocimetry using multifaceted holographic optical elements" by Shock et al., Applied Optics Vol. 23, No. 5, pages 752-756, in view of the patent issued to Friedl (PN. 3,598,466).**

The reasons for rejection are set forth in the previous Office Action dated July 19, 2001.

Claims 1, 2, 19 and 21 have been amended to include the feature having the holographic image corrector comprises a microscope. This feature is rejected as a new matter and not enablement under 35 USC 112, first paragraph, as set forth above. The reasons for rejection based on the cited references set forth in the previous Office Action read on the claims without this amended feature.

*Response to Arguments*

10. Applicant's arguments filed on December 31, 2001 have been fully considered but they are not persuasive. The amended claims have been fully considered and addressed above.

11. In response to applicant's arguments which state that the cited Shock reference teaches to correct a window glass not a lens and teaches no provision for placing an object behind the window glass for corrected viewing, which therefore differs from the instant application, the examiner respectfully disagrees for the reasons stated below. The idea of using an optical element, that would cause aberrations or distortions to incident wavefront, is an object to record the aberrations or distortions to the wavefront on a hologram and then use the hologram to correct the aberrations or distortions of the optical element is rather well known in the art and is fully disclosed by both the cited teachings of Shock and Friedl. Whether this optical element is a window glass or a lens the principle for holographic image correction is the same. In fact, Friedl teaches explicitly that a lens is used as the optical element. The procedure for forming the holographic image corrector will be the same whether the optical element is a window glass, a lens or even an objective lens. Based on the teachings of Shock and/or Friedl to replace

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the window glass or lens by an objective lens to make a holographic image corrector for the objective lens would have been routine skill to one skilled in the art. The applicant is also respectfully reminded that it is essentially true that a window glass is intended and is capable of being used to view object placed behind it. Don't we all often view objects placed behind a window glass either at home or in the office?

*Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent issued to Ferrante (PN. 4,384,759) and the teachings in "Optical Holography" by Hariharan demonstrate it is conventionally known in the art to record holographic image corrector by using the optical element, intended to be corrected, as the object to record the hologram. The hologram is then used in the optical path with the optical element to provide image correction. Hariharan in particular teaches the principle and procedure is independent of the particular nature of the optical element.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 703-305-6208. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on 703-308-1637. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

*Audrey Y. Chang*  
Primary Examiner  
Art Unit 2872

A. Chang, Ph.D.  
February 28, 2002

